

DRAFT

NAVY TRAINING SYSTEM PLAN

FOR THE

AMPHIBIOUS ASSAULT SHIP

VISUAL LANDING AID SYSTEMS

N88-NTSP-A-50-9203A/D

OCTOBER 1999

AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

EXECUTIVE SUMMARY

This Navy Training System Plan (NTSP) has been developed to identify the life cycle manpower, personnel, and training requirements associated with Amphibious Assault Ship Visual Landing Aid (VLA) Systems.

Due to the similarity and close interface between systems, all Amphibious Assault Ship VLA Systems are addressed together in this NTSP. The Amphibious Assault Ships complement of VLA Systems include the Vertical and Short Takeoff and Landing Optical Landing System (VSTOL OLS), Wind Measuring and Indicating System (WMIS), Hover Position Indicator (HPI), and Wave Off/Cut Light (WO/CUT). These systems are used to enhance the capability of V/STOL aircraft and helicopters to operate at night and in adverse weather conditions from the flight decks of Amphibious Assault Ships. All VLA Systems are post-Milestone III Decision Point and are in Acquisition Phase III, Production, Deployment, and Operational Support, of the Weapons System Acquisition Process and are in fleet-wide use.

The VSTOL OLS, WO/CUT, and HPI are operated by Marine Corps Landing Signal Officers (LSOs) with Military Occupational Specialty 7589. The WMIS requires no operator. The VSTOL OLS is maintained by Navy Interior Communications Electricians (ICs) with Navy Enlisted Classification (NEC) 4746. The WO/CUT, HPI, and WMIS are maintained by ICs and Electrician's Mates (EMs).

Initial training required to support the development and fleet introduction of the VLA Systems has been completed, with the exception of initial training for WMIS instructors, which will be provided by Naval Air Warfare Center Aircraft Division Lakehurst, New Jersey. LSO training is established at Marine Air Group (MAG) 14 Marine Corps Air Station (MCAS), Cherry Point, North Carolina, and MAG-13 MCAS Yuma, Arizona. Follow-on maintenance training for the VSTOL OLS is established at Service School Command Great Lakes, Illinois. The skills possessed by IC and EM "A" school graduates are sufficient to maintain the WO/CUT and HPI. No formal follow-on WO/CUT or HPI training is required. Currently there is no formal follow-on maintenance training established for WMIS. However, WMIS maintenance training will be established at Fleet Training Center (FTC) Norfolk, Virginia, and FTC San Diego, California, by incorporating WMIS information into existing course, A-651-0047, Propulsion Alarms and Indicating Systems Maintenance. A tentative WMIS Ready For Training date of first quarter Fiscal Year 2001 has been established.

Current Navy and Marine Corps manning is sufficient to operate and maintain the VLA Systems addressed in this NTSP. No increase or decrease in manpower requirements is anticipated.

AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

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AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

LIST OF ACRONYMS

ACDU	Active Duty
BITE	Built-In Test Equipment
CIN	Course Identification Number
CINCLANTFLT	Commander In Chief, Atlantic Fleet
CINCPACFLT	Commander In Chief, Pacific Fleet
CM	Corrective Maintenance
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations
DT	Developmental Test
EM	Electrician's Mate
FMS	Foreign Military Sales
FN	Fireman
FTC	Fleet Training Center
FTS&L	Fleet Technical Services and Logistics
FY	Fiscal Year
GFE	Government Furnished Equipment
GQ	General Quarters
HPI	Hover Position Indicator
Hz	Hertz
IC	Interior Communications Electrician
ILSP	Integrated Logistics Support Plan
LHA	Landing Ship, Helicopter Assault
LHD	Multi-Purpose Amphibious Assault Ship
LSO	Landing Signal Officer
MAG	Marine Air Group
MCAS	Marine Corps Air Station
MOS	Military Occupational Specialty
MRC	Maintenance Requirement Card

AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

LIST OF ACRONYMS

NA	Not Applicable
NADEP	Naval Aviation Depot
NAVAIRSYSCOM	Naval Air Systems Command
NAVPERSCOM	Naval Personnel Command
NAWCAD	Naval Air Warfare Center Aircraft Division
NAWCADLKE	Naval Air Warfare Center Aircraft Division Lakehurst
NEC	Navy Enlisted Classification
NOB	Naval Operations Base
NTC	Naval Training Center
NTSP	Navy Training System Plan
OJT	On-the-Job Training
OPNAV	Office of The Chief of Naval Operations
OPO	OPNAV Principal Official
OT	Operational Test
PM	Preventive Maintenance
PMA	Program Manager, Air
RFT	Ready For Training
SRA	Shop Replaceable Assembly
SSC	Service School Command
TAR	Training Air Reserve
TD	Training Device
TTE	Technical Training Equipment
VLA	Visual Landing Aid
VSTOL OLS	Vertical and Short Takeoff and Landing Optical Landing System
WMIS	Wind Measuring and Indicating System
WO/CUT	Wave Off Cut Light
WRA	Weapon Replaceable Assembly

AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

PREFACE

This Draft Navy Training System Plan (NTSP) for the Amphibious Assault Ship Visual Landing Aid Systems has been developed in accordance with the guidelines set forth in the Navy Training Requirements Documentation Manual, OPNAV Publication P-751-1-9-97. This document updates the format and incorporates all changes to the program that have occurred since the Approved Navy Training Plan (NTP), Amphibious Assault Ship Visual Landing Aid Systems, A-50-9203/A, was published in December 1993.

Major changes include the deletion of the Stabilized Glide Slope Indicator and Horizontal Approach Path Indicator, the replacement of the MK 1 MOD 0 Wave-Off Light with the MK 2 MOD 1 Wave-Off/Cut Light, and the incorporation of updated training concept, maintenance concept, and delivery schedules.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. Amphibious Assault Ship Visual Landing Aid Systems

2. Program Element. 0603512N

B. SECURITY CLASSIFICATION

1. System Characteristics Unclassified

2. Capabilities Unclassified

3. Functions Unclassified

C. MANPOWER, PERSONNEL, AND TRAINING PRINCIPALS

OPNAV Principal Official (OPO) Program Sponsor..... CNO (N885D)

OPO Resource Sponsor CNO (N885D)

Developing Agency..... NAVAIRSYSCOM (PMA251)

Training Agency CINCLANTFLT
CINCPACFLT
CNET

Training Support Agency NAVAIRSYSCOM (PMA205)

Manpower and Personnel Mission Sponsor CNO (N12)
NAVPERSCOM (PERS-4, PERS-404)

Director of Naval Training CNO (N7)

Marine Corps Combat Development Command
Manpower Management TFS Division

D. SYSTEM DESCRIPTION

1. Operational Uses. The Vertical and Short Takeoff and Landing Optical Landing System (VSTOL OLS), Wave Off/Cut Light (WO/CUT), Hover Position Indicator (HPI), and Wind Measuring and Indicating System (WMIS) are Visual Landing Aids (VLAs) designed to

improve the safety and efficiency of recovering aircraft and helicopters, both day and night, in all weather conditions, aboard Amphibious Assault Ships.

2. Foreign Military Sales. Specific information concerning the Foreign Military Sales (FMS) of the VLA Systems addressed in this NTSP may be obtained from the Program Office, Naval Air Systems Command (NAVAIRSYSCOM) PMA251.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST

1. Developmental Test. Developmental Tests (DTs) for the VLA Systems addressed in this NTSP have been successfully completed.

2. Operational Test. Operational Tests (OTs) for the VLA Systems addressed in this NTSP have been successfully completed.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED

1. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS replaced the Modified Close-In Approach Indicator.

2. Wave Off/Cut Light. The MK 2 MOD 1 WO/CUT replaced the MK 1 MOD 0 Wave Off Light.

3. Hover Position Indicator. The HPI did not replace any existing position indicating system.

4. Wind Measuring and Indicating System. The WMIS replaced the wind sock and augments hand-held mechanical wind measuring technology.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description

a. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS is operable in day, night, and all weather conditions. During recovery operations, the pilot uses the VSTOL OLS to establish proper glide slope position and obtain glide slope rate of change information at a range of 0.8 miles to the ramp where he will transition to the HPI.

b. Wave Off/Cut Light. The WO/CUT Light is an electronic system designed for use on Landing Ship, Helicopter Assault (LHA) and Multi-Purpose Amphibious Assault Ship (LHD) ships in conjunction with the VSTOL OLS. Two WO/CUT subassemblies are installed, one on each side of the VSTOL OLS indicator. When activated, the wave-off lights provide a visual indication to a pilot to discontinue the approach to the landing. The cut lights are also used

as signal lights to communicate specific messages to the pilot in the event of radio communication loss.

c. Hover Position Indicator. The HPI is designed to place the pilot's eye 49 feet above the deck when the red light is placed at the intersection of the vertical and horizontal groups of lights. When this occurs, the pilot is over the touchdown zone. As the pilot vertically descends, the HPI gives him a relative idea of his rate of closure with the deck as the red light orientation changes in its apparent alignment with the vertical amber HPI lights.

d. Wind Measuring and Indicating System. All Navy ships are equipped with a WMIS that provides continuous visual indication of wind direction (in degrees) and wind speed (in knots) relative to the ship's bow. The system also provides electrical signals representative of wind direction and speed for computation of flight deck crosswind and head wind conditions, computation of wind vectors for weapon launch systems, and recording by meteorological equipment. There are two primary types of WMISs in use: Type B and Type F. Both systems operate by transmission of electrical synchro signals. The Type B system is based on 60 Hertz (Hz) electrical power, while the newer Type F system utilizes 60 Hz and 400 Hz.

2. Physical Description

a. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Power Control Enclosure	36	25	92	120
Electronics Enclosure	36	25	92	65
Source Light Motor Driven Transformer	130	120	118	45
Inboard Datum Motor Driven Transformer	130	120	118	45
Outboard Datum Motor Driven Transformer	130	120	118	45
Remote Control Panel	136	150	87	45
Lighting Junction Box	110	80	51	20
Stabilization Junction Box	164	134	76	20
Source Light Transformer (lower indicator)	164	154	61	60
Source Light Transformer (upper indicator)	164	154	61	60
Lower Indicator Display	599	163	640	700

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Upper Indicator Display	599	163	640	700
Inboard Datum Bar	93	104	120	75
Outboard Datum Bar	93	104	120	75

b. Wave Off/Cut Light. The WO/CUT consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Master Control Panel	20	16	7	45
Remote Panel	6	5	4.5	10
Junction Box (L300)	4	4	3	2
Junction Box (L400)	7	4	4.6	2
Light Assembly	53	10 (diameter)		30
Portable Switch	8.4 (long), 4.5 (thick)			5

c. Hover Position Indicator. The HPI consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Control Panel	12.3	9.1	5.1	30
Junction Box	6.3	11.4	13.4	15
HPI Light	85.0	77.0	116.5	135

d. Wind Measuring and Indicating System. The WMIS consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Detector	32.0	15.5	27.5	15.5
Transmitter	13.5	15.5	7.5	61.0
Indicator	11.1	7.4	4.9	15.0

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Built-In Test Equipment (BITE), Single Station	24.0	20.0	11.1	81.0
BITE, Dual Station:				
Synchro Panel Assembly	14.0	13.0	7.0	24.0
Test Panel Assembly	20.0	16.0	11.1	58.0

* Some installations will require more than one transmitter.

** Various and multiple indicators can be used in one WMIS.

3. New Development Introduction. The VLA Systems addressed in this NTSP are currently installed and in-use aboard Amphibious Assault Ships and will be installed on new construction Amphibious Assault Ships, as applicable, during construction. VLA Systems are new production equipment.

4. Significant Interfaces

a. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS is used in conjunction with the other VLA Systems; however, they are not physically connected.

b. Wave Off/Cut Light. The WO/CUT can be operated independently or be interconnected with the ship's Rotary Beacon System. When connected to the rotary beacon, a wave-off initiation will also light the red rotary beacon.

c. Hover Position Indicator. The HPI is used in conjunction with the other VLA Systems; however, they are not physically connected.

d. Wind Measuring and Indicating System. The WMIS interfaces with ship's electrical and weapon fire control systems.

H. CONCEPTS

1. Operational

a. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS is manned by the Landing Signal Officer (LSO) and activated during all day and night flight operations. The average operating cycle for aircraft recovery is one and one-half hours with the longest cycle lasting four hours.

b. Wave Off/Cut Light. When activated by the LSO, the WO/CUT begins to flash, providing a visual indication to the pilot to abort the landing attempt and initiate a new landing approach.

c. Hover Position Indicator. The HPI will be manned by the LSO and activated during all day and night flight operations. The average operating cycle for aircraft recoveries is one and one-half hours with the longest cycle lasting four hours.

d. Wind Measuring and Indicating System. The WMIS is activated during all underway periods, 24 hours a day, and requires no operator.

2. Maintenance Concept. The maintenance concept for all the VLA Systems addressed in this NTSP follows the direction and guidance outlined in the Naval Ships Maintenance, Material, and Management Program Manual 4790.4 (series).

a. Vertical and Short Takeoff and Landing Optical Landing System. VSTOL OLS maintenance is based on two levels of repair, organizational and depot as outlined in the VSTOL OLS Maintenance Plan, NAWCADLKE-MAPL-92054 Revision A, dated March 1997. VSTOL OLS components are designed to facilitate rapid fault isolation and verification.

(1) Organizational. Organizational level maintenance of the VSTOL OLS is performed by Interior Communications Electricians (ICs) with Navy Enlisted Classification (NEC) 4779, VSTOL OLS Maintenance Technician.

(a) Preventive Maintenance. Preventive Maintenance (PM) is performed at specified intervals in accordance with established Maintenance Requirement Cards (MRCs). PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

(b) Corrective Maintenance. Corrective maintenance (CM) is performed as indicated by the fault isolation, removal, and replacement of Weapon Replaceable Assemblies (WRAs) and Shop Replaceable Assemblies (SRAs).

(2) Intermediate. Not Applicable (NA)

(3) Depot. Depot level maintenance is performed at Naval Aviation Depot (NADEP) North Island, California. The maintenance philosophy behind VSTOL OLS depot maintenance is to perform overhaul and repair of all circuit boards and subassemblies, rework of all severely damaged or corroded equipment, and the repair and calibration of all equipment beyond organizational level capabilities.

(4) Interim Maintenance. NA

(5) Life-Cycle Maintenance Plan. The Naval Air Warfare Center Lakehurst, New Jersey (NAWCADLKE) provides necessary engineering technical services through their Fleet Technical Services and Logistics (FTS&L) Division. The FTS&L Division is

available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the VSTOL OLS during or following ship overhaul periods.

b. Wave Off/Cut Light. WO/CUT maintenance is based on two levels of repair, organizational and depot in accordance with the WO/CUT Maintenance Plan, NAWCADLKE-MAPL-004-82 Revision A, dated May 1997.

(1) Organizational. Organizational level maintenance of the WO/CUT is performed by the same ICs and Electrician Mate's (EMs) that maintain the HPI and ships lighting system.

(a) Preventive Maintenance. PM is performed at specified intervals in accordance with established MRCs. PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

(b) Corrective Maintenance. CM is performed as indicated by the fault isolation, removal, and replacement of defective components.

(2) Intermediate. NA

(3) Depot. Depot level maintenance of the WO/CUT consists of all repair actions beyond the capability of organizational level maintenance. Depot level maintenance is performed at NADEP North Island, California.

(4) Interim Maintenance. NA

(5) Life-Cycle Maintenance Plan. NAWCADLKE provides necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the WO/CUT during or following ship overhaul periods.

c. Hover Position Indicator. HPI maintenance is based on two levels of repair, organizational and depot in accordance with the HPI Maintenance Plan, NAWCADLKE-MAPL-010-85 Revision A, dated August 1997.

(1) Organizational. Organizational level maintenance of the HPI is performed by the same ICs and EMs that maintain the WO/CUT and ships lighting system.

(a) Preventive Maintenance. PM is performed at specified intervals in accordance with established MRCs. PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

(b) Corrective Maintenance. CM is performed as indicated by the fault isolation, removal, and replacement of defective components.

(2) Intermediate. NA

(3) Depot. Depot level maintenance of the HPI consists of all repair actions beyond the capability of organizational level maintenance. Depot level maintenance is performed at NADEP North Island, California.

(4) Interim Maintenance. NA

(5) Life-Cycle Maintenance Plan. NAWCADLKE provides necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the HPI during or following ship overhaul periods. Additionally, the HPI gyro is overhauled at the depot level every 3000 operating hours. Complete overhaul of the HPI system is accomplished at the depot level every three to five years depending on ship availability.

d. Wind Measuring and Indicating System. The WMIS maintenance concept is based on three levels of maintenance as outlined in Maintenance Plan SSIED MP. No. 002-80, dated 25 November 1980.

(1) Organizational. Organizational level maintenance includes all maintenance performed aboard ship by ship's personnel. Organizational level maintenance of the WMIS is performed by ICs on all class ships. There is no NEC requirement for WMIS maintenance technicians.

(a) Preventive Maintenance. PM actions include cleaning, inspection, lubrication, and operational and functional testing of WMIS units.

(b) Corrective Maintenance. CM consists of operational and functional tests, fault isolation, and unit repair by assembly, subassembly, component, or piece-part replacement.

(2) Intermediate. Intermediate level maintenance is performed at Shore Intermediate Maintenance Activities and afloat aboard tenders by ICs. Intermediate level maintenance consists of unit test and fault isolation to the component or piece-part level and repair by component or piece-part replacement. Also, subassemblies and components that are beyond the capability of repair at the organizational level are repaired by removal and replacement of defective piece-parts.

(3) Depot. Depot level maintenance includes repair or overhaul and calibration of all end items, including units, repairable assemblies, subassemblies, and components coded for depot repair or found to be beyond the capability of intermediate maintenance activities.

(4) Interim Maintenance. Interim Maintenance support for Type F Hi-Shock WMIS was provided by NAWCADLKE, through their FTS&L Division, prior to the Material Support Date of February 1997.

(5) Life-Cycle Maintenance Plan. NAWCADLKE provides necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the WMIS during or following ship overhaul periods.

3. Manning Concept

a. Vertical and Short Takeoff and Landing Optical Landing System

(1) Watch Station Requirements. The VSTOL OLS is operated by two embarked Marine squadron LSOs during AV-8B flight operations and General Quarters (GQ).

STATION TITLE	SKILL IDENTIFIER	GENERAL QUARTERS MANNING	FLIGHT QUARTERS MANNING
LSO	O-3,MOS 7589	2	2

(2) Maintenance Workload. VSTOL OLS maintenance is performed by ICs with NEC 4779. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

SKILL IDENTIFIER	PM	CM
IC2, NEC 4779	0.90	0.09
ICFN	1.20	0.01
ICFN	0.05	0.00
TOTALS	2.10	0.10

(3) Recommended Manpower Requirements. The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the VSTOL OLS. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the VSTOL OLS:

SKILL IDENTIFIER	QUANTITY
IC2, NEC 4779	1
ICFN	1

b. Wave Off/Cut Light

(1) Watch Station Requirements. The WO/CUT is operated by the same two embarked Marine squadron LSOs that operate the VSTOL OLS during AV-8B flight operations and GQ.

STATION TITLE	SKILL IDENTIFIER	GENERAL QUARTERS MANNING	FLIGHT QUARTERS MANNING
LSO	O-3, MOS 7589	2	2

(2) Maintenance Workload. WO/CUT maintenance is performed by the same ICs and EMs who maintain the ships lighting system. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

SKILL IDENTIFIER	PM	CM
IC2/EM2	0.03	0.03
ICFN/EMFN	0.03	0.04
TOTALS	0.06	0.07

(3) Recommended Manpower Requirements. The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the WO/CUT. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the WO/CUT:

SKILL IDENTIFIER	QUANTITY
IC2, EM2	1
ICFN	1

c. Hover Position Indicator

(1) Watch Station Requirements. The HPI is operated by the same two embarked Marine squadron LSOs that operate the VSTOL OLS and WO/CUT during AV-8B flight operations and GQ.

STATION TITLE	SKILL IDENTIFIER	GENERAL QUARTERS MANNING	FLIGHT QUARTERS MANNING
LSO	O-3, MOS 7589	2	2

(2) Maintenance Workload. HPI maintenance is performed by the same ICs and EMs who maintain the WO/CUT and ships lighting system. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

SKILL IDENTIFIER	PM	CM
IC2/EM2	0.04	0.08
ICFN/EMFN	0.07	0.04
TOTALS	0.11	0.12

(3) Recommended Manpower Requirements. The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the HPI. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the HPI:

SKILL IDENTIFIER	QUANTITY
IC2 or EM2	1
ICFN	1

d. Wind Measuring and Indicating System

(1) Watch Station Requirements. There are no watch station requirements for the WMIS. The system is activated at all times while underway. No operator action is required after activation.

(2) Maintenance Workload. ICs are responsible for PM and CM performed on the WMIS. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE:

SKILL IDENTIFIER	PM	CM
IC2	0.30	0.25
ICFN	0.30	0.25
TOTALS	0.60	0.50

(3) Recommended Manpower Requirements. The following manpower currently onboard Amphibious Assault Ships is sufficient to maintain the WMIS.

SKILL IDENTIFIER	QUANTITY
IC2	1
ICFN	1

4. Training Concept. The objective of the VLA for Amphibious Assault Ships training concept is to provide the fleet with proficient VLA operators and maintainers. All VLA Systems addressed herein are currently in fleet use and all initial training, with the exception of initial training for WMIS instructors, has been completed. Follow-on operator training for VSTOL OLS, WO/CUT, and HPI is included in the AV-8B LSO syllabus currently available at Marine

Corps Air Station (MCAS) Cherry Point, North Carolina, and MCAS El Toro, California. The WMIS requires no operator and, therefore, no WMIS operator training is required. Follow-on maintenance training for the VSTOL OLS is established at Service School Command (SSC) Great Lakes, Illinois. The skills possessed by IC and EM “A” school graduates are sufficient to maintain the WO/CUT and HPI. No formal follow-on WO/CUT or HPI training is necessary. Currently, there is no formal follow-on maintenance training established for WMIS. However, due to identified training deficiencies, WMIS organizational and intermediate maintenance training will be established at Fleet Training Center (FTC) Norfolk, Virginia, and FTC San Diego, California.

a. Initial Training. All initial training required to support the DT, OT, and fleet introduction of the VLA Systems addressed in this NTSP has been completed. Initial training for WMIS instructors will be provided by NAWCADLKE. A tentative WMIS Ready For Training (RFT) date of first quarter Fiscal Year (FY) 01 has been established.

Title	Wind Measuring and Indicating System Instructor Initial Training
Description	This course provides FTC instructors the knowledge to teach WMIS maintenance.
Location	NAWCAD Lakehurst, New Jersey
Length	5 days
RFT date	Fourth quarter FY00
TTE/TD	WMIS system
Prerequisites	A-623-0105, Interior Communications Electrician Class A NEC 9502

b. Follow-On Training

(1) Operator

(a) Vertical and Short Takeoff and Landing Optical Landing System, Wave Off/Cut Light, and Hover Position Indicator. The VSTOL OLS, WO/CUT, and HPI are operated by Marine Corps LSOs with Military Occupational Specialty (MOS) 7589. MOS 7589 is obtained by completing a LSO training syllabus currently available at Marine Air Group (MAG) 14 MCAS Cherry Point and MAG-13 MCAS Yuma. Candidates for LSO training must be qualified AV-8B pilots with MOS 7509 and nominated by their commanding officer. After successfully completing the LSO Syllabus, MOS 7589 is awarded via a designation letter from the Commandant of the Marine Corps.

(b) Wind Measuring and Indicating System. NA

(2) Maintenance

(a) Vertical and Short Takeoff and Landing Optical Landing

System

Title	Vertical and Short Takeoff and Landing Optical Landing System Maintenance
CIN	A-670-0064
Model Manager ..	SSC Great Lakes, Illinois
Description	This course provides graduates with the skills to maintain the Vertical and Short Takeoff and Landing Optical Landing System at the organizational level.
Location	SSC Great Lakes
Length	12 days
RFT date	Currently available
Skill identifier	IC, NEC 4779
TTE/TD	Refer to section IV.A.1 for TTE. TD is NA
Prerequisites	A-623-0105, Interior Communications Electrician Class A Paygrades E-5 through E-7

(b) Wave Off/Cut Light. The skills possessed by IC and EM “A” school graduates are sufficient to maintain the WO/CUT. No formal follow-on WO/CUT training is necessary.

(c) Hover Position Indicator. The skills possessed by IC and EM “A” school graduates are sufficient to maintain the HPI. No formal follow-on HPI training is necessary.

(d) Wind Measuring and Indicating System. Currently, there is no formal follow-on maintenance training established for WMIS. However, due to identified training deficiencies, WMIS organizational and intermediate maintenance will be added to course A-651-0047, Propulsion Alarms and Indicating Systems Maintenance, at FTC Norfolk and FTC San Diego per Training Project Plan serial number 1500T23313/400, dated 12 August 1996. All required training materials and equipment are in place with the exception of the WMIS Technical Training Equipment (TTE). Current plans are to remove two complete WMISs from decommissioned ships for use as TTE. A tentative WMIS RFT date of first quarter FY01 has been established.

Title **Propulsion Alarms And Indicating Systems Maintenance**

CIN A-651-0047

Model Manager .. FTC Norfolk

Description This course provides organizational and intermediate level maintenance personnel with the knowledge and skills necessary to support the Type "B" and "F" WMIS. It also provides skills to perform PM and CM on pressure and temperature alarm sensors, alarm panels and switchboards, McNabb salinity indicating level alarm and indicating system, and various other engine room alarms on marine propulsion plants.

Location FTC Norfolk
FTC San Diego

Length 31 days

RFT date Currently available (To Be Determined with WMIS)

Skill identifier IC, no NEC is awarded

TTE/TD Refer to section IV.A.1 for TTE.

Prerequisites A-623-0105, Interior Communications Electricians Class A School
Six months fleet experience working with alarm and indicating systems

c. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
IC	A-623-0105, Interior Communications Electrician Class A
EM	A-662-0159, Electrician's Mate A School Pipeline

d. Training Pipelines. Replacement pilot training courses for the AV-8B, AH-1W, UH-1N, SH-3D, SH-3H, CH-46D, CH46E, RH-53D, CH-53E, MH-53E, SH-60B, SH-60F, HH-60H, H-60A, H-60D, H-60G, H-60K, CH-47D, MH-47E, MH-6, OH-58D, and AH-64 require minor updating any time new VLA equipment is installed or existing equipment is modified aboard Amphibious Assault Ships.

I. ONBOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development

- a. Maintenance Training Improvement Program.** NA
- b. Aviation Maintenance In-Service Training.** NA
- c. Aviation Maintenance Training Continuum System.** NA

2. Personnel Qualification Standards. No Personnel Qualification Standards exist or are planned for maintenance of VLA Systems.

3. Other Onboard or In-Service Training Packages. Each class of Amphibious Assault Ships has an individualized helicopter operations training package. All personnel involved in helicopter launch and recovery operations must complete the training package and pass a locally prepared test before being certified for their flight quarters station.

Junior IC and EM personnel gain VLA maintenance experience through On-The-Job Training (OJT). OJT consists of performing on-equipment PM and limited CM under the direct guidance of a senior Petty Officer who has completed advanced training on that particular system.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

SYSTEM	CONTRACT NUMBER	MANUFACTURER	ADDRESS
VSTOL OLS	N00019-96-D-0159	Hughes Technical Services Company	Indianapolis, Indiana
WO/CUT	N68335-90-M-3032	EMW Incorporated	Lititz, Pennsylvania
HPI	N68335-90-C-0002	EMW Incorporated	Lititz, Pennsylvania
WMIS	N00140-87-C-1377	Airflo Instrument Company	Glastonbury, Connecticut

2. Program Documentation

a. Vertical and Short Takeoff and Landing Optical Landing System. The VSTOL OLS Integrated Logistics Support Plan (ILSP), NAWCADLKE-ILSP-92054, was approved in March 1993. The VSTOL OLS Maintenance Plan, NAWCADLKE-MAPL-92054 Revision A, was approved in March 1997.

b. Wave Off/Cut Light. The WO/CUT Maintenance Plan, NAWCADLKE-MAPL-004-82 Revision A, was approved in May 1997. A WO/CUT ILSP does not exist, nor is one currently planned.

c. Hover Position Indicator. The HPI Maintenance Plan, NAWCADLKE-MAPL-010-85 Revision A, was approved in August 1997. A HPI ILSP does not exist, nor is one currently planned.

d. Wind Measuring and Indicating System. The WMIS Maintenance Plan, SSIED MP 002-80 was approved in November 1980. A WMIS ILSP does not exist, nor is one currently planned.

3. Technical Data Plan. All Technical Manuals, MRCs, Planned Maintenance System Work Packages, and Operator Manuals required to support the VLA Systems addressed in this NTSP have been completed and distributed. Technical Data required for new construction ships will be obtained from the Naval Air Technical Data and Engineering Service Command via the automatic distribution list. A listing of all technical data required to support VLA Systems training is available in element IV.B.3 of this NTSP.

4. Test Sets, Tools, and Test Equipment. All test sets, tools, and test equipment required to support fleet maintenance of the VLA Systems addressed in this NTSP have been delivered. Test sets, tools, and test equipment required onboard new construction ships will be included in the ships initial outfitting. Test sets, tools, and test equipment required to support VSTOL OLS training have been delivered. A listing is available in element IV.A.1 of this NTSP. Test sets, tools, and test equipment requirements to support WMIS training have not been established. When known, they will be included in future updates to this NTSP.

5. Repair Parts. Supply support for the VLA Systems addressed in this NTSP will be provided through normal supply channels from the Navy Inventory Control Point Mechanicsburg, Pennsylvania, and Defense Logistics Agency supply centers.

6. Human Systems Integration. NA

K. SCHEDULES

1. Installation and Delivery Schedules. Delivery and installation schedule information was provided by NAWCAD Lakehurst, New Jersey. The installation of VLA Systems on all active Amphibious Assault Ships has been completed. VLA Systems will be installed on all new construction Amphibious Assault Ships during construction. Delivery of new VLA Systems to the ship yards will be coordinated by NAWCAD Lakehurst to preclude installation delays or long storage times prior to installation.

AMPHIBIOUS ASSAULT SHIP VLA DELIVERY SCHEDULE

ACTIVITY, UIC	VSTOL OLS	HPI	WO/CUT	WMIS
LHA-1 USS Tarawa, 20550	FY96	FY89	FY96	FY94
LHA-2 USS Saipan, 20632	FY97	FY89	FY97	FY93
LHA-3 USS Belleau Wood, 20633	FY97	FY89	FY97	FY99
LHA-4 USS Nassau, 20725	FY95	FY89	FY95	FY94
LHA-5 USS Peleliu, 20748	FY96	FY89	FY96	FY98
LHD-1 USS Wasp, 21560	FY97	FY89	FY97	FY97
LHD-2 USS Essex, 21533	FY97	FY90	FY97	FY98
LHD-3 USS Kearsarge, 21700	FY96	FY91	FY96	FY95
LHD 4 USS Boxer, 21808	FY96	FY92	FY96	FY98
LHD-5 USS Bataan, 21879	FY97	FY94	FY97	FY97
LHD-6 USS Bonhomme Richard, 22202	FY98	FY96	FY98	FY98
LHD-7 Iwo Jima, 23027	1 st Qtr FY00	FY99	1 st Qtr FY00	1 st Qtr FY00
NAWCAD Lakehurst	FY97	FY97	FY97	FY93

2. Ready For Operational Use Schedule. The installation of VLA Systems on all active Amphibious Assault Ships has been completed and the systems are in operational use. VLA Systems installed on new construction Amphibious Assault Ships will be ready for operational use upon completion of system certification during sea trials.

3. Time Required to Install at Operational Sites

a. Vertical and Short Takeoff and Landing Optical Landing System.

Installation of VSTOL OLS requires approximately four weeks.

b. Wave Off/Cut Light. Installation of WO/CUT requires approximately eight weeks.

c. Hover Position Indicator. Installation of HPI requires approximately eight weeks.

d. Wind Measuring and Indicating System. Installation of WMIS requires approximately twelve weeks.

4. Foreign Military Sales and Other Source Delivery Schedule. Specific information concerning FMS of the VLA Systems may be obtained from the Program Office, NAVAIRSYSCOM PMA251.

5. Training Device and Technical Training Equipment Delivery Schedule

TECHNICAL TRAINING EQUIPMENT

ACTIVITY, UIC	VSTOL OLS	HPI	WO/CUT	WMIS
SSC Great Lakes, 30626	FY95	FY95	FY95	NA
FTC Norfolk, 79700	NA	NA	NA	Note 1
FTC San Diego, 61690	NA	NA	NA	Note 1

Note 1: Two complete WMISs will be obtained from decommissioned ships for use at FTC Norfolk and FTC San Diego as TTE. A firm date for this action has not been established.

L. GOVERNMENT-FURNISHED EQUIPMENT AND CONTRACTOR-FURNISHED EQUIPMENT TRAINING REQUIREMENTS. NA

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
NTSP for the AV-8B Weapon System	A-50-8520D/D	PMA257	Draft Jul 99
NTSP for the Integrated Launch and Recovery Television Surveillance System	A-50-8401/A	AIR551	Approved Aug 84
NTSP for the Aircraft Launch and Recovery Equipment (ALRE) Quality Assurance/Maintenance Program	A-50-8509C/D	AIR552	Draft Jan 95
NTSP for the Fresnel Lens Optical Landing System (FLOLS)	A-50-8409A/D	PMA251	Draft May 97

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
NTSP for the Landing Signal Officer (LSO) Training System	A-50-8418B/A	PMA251	Approved Jul 92
NTSP for the Light Airborne Multipurpose System (LAMPS) MK III	A-50-7702D/A	PMA299	Approved Nov 94
NTSP for the Aircraft Carrier Visual Landing Aid Systems	A-50-9202A/D	PMA251	Draft Mar 99
NTSP for the Air Capable Ship Visual Landing Aid Systems	A-50-9205A/D	PMA251	Preliminary Draft Aug 99
NTSP for the AH-1W Aircraft	A-50-8520D/A	PMA267	Approved Mar 96
NTSP for the CH-53E Helicopter	A-50-7604F/D	PMA261	Draft Apr 95
NTSP for the CH-60 Fleet Combat Support Helicopter	Initial NTSP	PMA299	In Work May 99
NTSP for the CH-60 Multi Mission Helicopter	A-50-9902/D	PMA299	Preliminary Draft Jun 99
NTSP for the United States Marine Corps H-1 Helicopter Upgrade Program	A-50-9602/A	PMA267	Approved Dec 97
NTSP for the MH-53E Helicopter	A-50-8417C/D	PMA261	In Work May 99
NTSP for the SH-60F Carrier Inner-Zone ASW Helicopter	A-50-8508D/D	PMA299	Draft Mar 99
NTSP for the RH-53D (Reserve) Helicopter	A-50-8601A/A	PMA261	Approved Mar 92
NTSP for the HH-60H Combat SAR-SW Support Helicopter	A-50-8714B/A	PMA299	Approved Dec 93

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
NTSP for the SH-2C Helicopter	A-50-9303A/A	PMA299	Approved Jun 94
NTSP for the SH-60R Multi-Mission Helicopter	A-50-9403/D	PMA299	In Work May 99
NTSP for the HH/UH-1N Aircraft	A-50-9404/A	PMA267	Approved Oct 94
NTSP for the H-46 Helicopter	A-50-9409/A	PMA261	Approved Jun 95
ILSP for the Vertical and Short Takeoff and Landing Optical Landing System	NAWCADLKE-ILSP-92054	NAWCAD Lakehurst	Approved Mar 93
Maintenance Plan for the Wave Off/Cut Light	NAWCADLKE-MALP-004-82 Revision A	NAWCAD Lakehurst	Approved May 97
Maintenance plan for the Vertical and Short Takeoff and Landing Optical Landing System	NAWCADLKE-MAPL-92054 Revision A	NAWCAD Lakehurst	Approved Mar 97
Maintenance plan for the Hover Position Indicator	NAWCADLKE-MAPL-010-85 Revision A	NAWCAD Lakehurst	Approved Aug 97
Maintenance Plan for the Wind Measuring and Indicating System	SSIED MP 002-80	NAWCAD Lakehurst	Approved Nov 80

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the VLA for Amphibious Assault Ships and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

II.A.2.a. Operational and Fleet Support Activity Deactivation Schedule

II.A.2.b. Billets to be Deleted in Operational and Fleet Support Activities

II.A.2.c. Total Billets to be Deleted in Operational and Fleet Support Activities

II.A. BILLET REQUIREMENTS

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

SOURCE: PMA251

DATE: 4/1/99

ACTIVITY, UIC		PFYs	CFY00	FY01	FY02	FY03	FY04
OPERATIONAL ACTIVITIES - NAVY							
LHA2 USS Saipan	20632	1	0	0	0	0	0
LHA4 USS Nassau	20725	1	0	0	0	0	0
LHD1 USS Wasp	21560	1	0	0	0	0	0
LHD3 USS Kearsarge	21700	1	0	0	0	0	0
LHD5 USS Bataan	21879	1	0	0	0	0	0
LHD7 USS Iwo Jima	23027	0	1	0	0	0	0
LHA1 USS Tarawa	20550	1	0	0	0	0	0
LHA3 USS Belleau Wood	20633	1	0	0	0	0	0
LHA5 USS Peleliu	20748	1	0	0	0	0	0
LHD2 USS Essex	21533	1	0	0	0	0	0
LHD4 USS Boxer	21808	1	0	0	0	0	0
LHD6 USS Bonhomme Richard	22202	1	0	0	0	0	0
TOTAL:		11	1	0	0	0	0

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
OPERATIONAL ACTIVITIES - NAVY					
LHA2 USS Saipan, 20632					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
ACTIVITY TOTAL:	0	2			
LHA4 USS Nassau, 20725					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
ACTIVITY TOTAL:	0	2			
LHD1 USS Wasp, 21560					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD3 USS Kearsarge, 21700					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD5 USS Bataan, 21879					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD7 USS Iwo Jima, 23027, FY00 Increment					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHA1 USS Tarawa, 20550					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
ACTIVITY TOTAL:	0	2			
LHA3 USS Belleau Wood, 20633					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
ACTIVITY TOTAL:	0	2			
LHA5 USS Peleliu, 20748					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
ACTIVITY TOTAL:	0	2			
LHD2 USS Essex, 21533					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD4 USS Boxer, 21808					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD6 USS Bonhomme Richard, 22202					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS		PFYs		CFY00		FY01		FY02		FY03		FY04	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL		
NAVY OPERATIONAL ACTIVITIES - ACDU														
IC1	4779	4728		11		1		0		0		0		0
IC2	4755	4779		5		0		0		0		0		0
IC2	4779			6		1		0		0		0		0

SUMMARY TOTALS:

NAVY OPERATIONAL ACTIVITIES - ACDU														
				22		2		0		0		0		0

GRAND TOTALS:

NAVY - ACDU														
				22		2		0		0		0		0

II.A.3. TRAINING ACTIVITIES INSTRUCTOR AND SUPPORT BILLET REQUIREMENTS

DESIG RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY00		FY01		FY02		FY03		FY04	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL		

TRAINING ACTIVITY, LOCATION, UIC: FTC Norfolk, NOB Norfolk, Virginia, 61797

INSTRUCTOR BILLETS

ACDU													
IC1	9502	0	2	0	2	0	2	0	2	0	2	0	2
TOTAL:		0	2	0	2	0	2	0	2	0	2	0	2

TRAINING ACTIVITY, LOCATION, UIC: FTC San Diego, NTC San Diego, California, 61690

INSTRUCTOR BILLETS

ACDU													
IC1	9502	0	2	0	2	0	2	0	2	0	2	0	2
TOTAL:		0	2	0	2	0	2	0	2	0	2	0	2

TRAINING ACTIVITY, LOCATION, UIC: Service School Command, Naval Training Center Great Lakes, Illinois, 30626

INSTRUCTOR BILLETS

ACDU													
IC1	4779 9502	0	1	0	1	0	1	0	1	0	1	0	1
IC2	4779	0	1	0	1	0	1	0	1	0	1	0	1
TOTAL:		0	2	0	2	0	2	0	2	0	2	0	2

II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs OFF ENL	CFY00 OFF ENL	FY01 OFF ENL	FY02 OFF ENL	FY03 OFF ENL	FY04 OFF ENL
Service School Command, Naval Training Center Great Lakes, Illinois, 30626	NAVY	0.2	0.2	0.2	0.2	0.2	0.2
FTC Norfolk, NOB Norfolk, Virginia, 61797	NAVY	5.1	5.1	5.1	5.1	5.1	5.1
FTC San Diego, NTC San Diego, California, 61690	NAVY	5.1	5.1	5.1	5.1	5.1	5.1
SUMMARY TOTALS:							
	NAVY	10.4	10.4	10.4	10.4	10.4	10.4
GRAND TOTALS:							
		10.4	10.4	10.4	10.4	10.4	10.4

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY00 +/- CUM	FY01 +/- CUM	FY02 +/- CUM	FY03 +/- CUM	FY04 +/- CUM
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a. OFFICER - USN Not Applicable

b. ENLISTED - USN

Operational Billets ACDU and TAR

IC1	4779	4728	11	1	12	0	12	0	12	0	12	0	12
IC2	4755	4779	5	0	5	0	5	0	5	0	5	0	5
IC2	4779		6	1	7	0	7	0	7	0	7	0	7
IC			162	0	162	0	162	162	162	0	162	0	162

Staff Billets ACDU and TAR

IC1		9502	4	0	4	0	4	0	4	0	4	0	4
IC1	4779	9502	1	0	1	0	1	0	1	0	1	0	1
IC2	4779		1	0	1	0	1	0	1	0	1	0	1

Chargeable Student Billets ACDU and TAR

10	0	10	0	10	0	10	0	10	0	10	0	10
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TOTAL USN ENLISTED BILLETS:

Operational			184	2	186	0	186	0	186	0	186	0	186
Staff			6	0	6	0	6	0	6	0	6	0	6
Chargeable Student			10	0	10	0	10	0	10	0	10	0	1

c. OFFICER - USMC Not Applicable

d. ENLISTED - USMC Not Applicable

II.B. PERSONNEL REQUIREMENTS

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

COURSE LENGTH: 2.0 Weeks

TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 10%

BACKOUT FACTOR: 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00 OFF ENL	FY01 OFF ENL	FY02 OFF ENL	FY03 OFF ENL	FY04 OFF ENL
SSC, NTC, Great Lakes, Illinois							
	NAVY	ACDU		6	6	6	6
		TOTAL:	7	6	6	6	6

CIN, COURSE TITLE: A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

COURSE LENGTH: 3.6 Weeks

TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 10%

BACKOUT FACTOR: 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00 OFF ENL	FY01 OFF ENL	FY02 OFF ENL	FY03 OFF ENL	FY04 OFF ENL
FTC, Norfolk, NOB Norfolk, Virginia, 61797							
	NAVY	ACDU		81	81	81	81
		TOTAL:	81	81	81	81	81

CIN, COURSE TITLE: A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

COURSE LENGTH: 3.6 Weeks

TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 10%

BACKOUT FACTOR: 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00 OFF ENL	FY01 OFF ENL	FY02 OFF ENL	FY03 OFF ENL	FY04 OFF ENL
FTC, San Diego, NTC San Diego, California, 61690							
	NAVY	ACDU		81	81	81	81
		TOTAL:	81	81	81	81	81

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the VLA for Amphibious Assault Ships and, therefore, are not included in Part III of this NTSP:

III.A.2. Follow-on Training

III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

PART III - TRAINING REQUIREMENTS

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: Wind Measuring and Indicating System Instructor Initial Training
COURSE DEVELOPER: NAWCADLKE
COURSE INSTRUCTOR: Civilian
COURSE LENGTH: 5 Days
ACTIVITY DESTINATIONS: FTC Norfolk, Virginia
FTC San Diego, California

LOCATION, UIC	BEGIN	STUDENTS		CIV	
	DATE	OFF	ENL		
NAWCAD Lakehurst, New Jersey, 45945	4 th Qtr FY00		4		Input
			0.1		AOB
			0.01		Chargeable

III.A.2. FOLLOW-ON TRAINING

III.A.2.a. EXISTING COURSES

CIN, COURSE TITLE: A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

TRAINING ACTIVITY: Service School Command

LOCATION, UIC: Naval Training Center Great Lakes, Illinois, 30626

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	5		7		6		6		6	ATIR
	5		6		5		5		5	Output
	0.2		0.2		0.2		0.2		0.2	AOB
	0.2		0.2		0.2		0.2		0.2	Chargeable

III.A.2.b. PLANNED COURSES

CIN, COURSE TITLE: A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

TRAINING ACTIVITY: FTC, Norfolk

LOCATION, UIC: NOB Norfolk, Virginia, 61797

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	81		81		81		81		81	ATIR
	73		73		73		73		73	Output
	5.1		5.1		5.1		5.1		5.1	AOB
	5.1		5.1		5.1		5.1		5.1	Chargeable

CIN, COURSE TITLE: A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

TRAINING ACTIVITY: FTC, San Diego

LOCATION, UIC: NTC San Diego, California, 61690

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	81		81		81		81		81	ATIR
	73		73		73		73		73	Output
	5.1		5.1		5.1		5.1		5.1	AOB
	5.1		5.1		5.1		5.1		5.1	Chargeable

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the VLA for Amphibious Assault Ships, and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

IV.A.2. Training Devices

IV.C. Facility Requirements

IV.C.1. Facility Requirements Summary (Space/Support) by Activity

IV.C.2. Facility Requirements Detailed by Activity and Course

IV.C.3. Facility Project Summary by Program

IV.A. TRAINING HARDWARE

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

CIN, COURSE TITLE: A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

TRAINING ACTIVITY: Service School Command

LOCATION, UIC: NTC Great Lakes, Illinois, 30626

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
001	VSTOL OLS Production Unit	1	May 95	GFE	Onboard
GPTE					
021	CVS/260/6P Multimeter	10	May 95	GFE	Onboard
022	89536-8000A/BU AC Voltmeter	10	May 95	GFE	Onboard
023	AN/USM-425 Oscilloscope	10	May 95	GFE	Onboard
SPTE					
030	1313-6A Video Signal Generator	10	May 95	GFE	Onboard

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC Norfolk

LOCATION, UIC: NOB Norfolk, Virginia, 61797

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
002	Detector Wind Direction	1	Jul 00	GFE	Pending
003	Mount, Detector, Wind Direction	1	Jul 00	GFE	Pending
004	Transmitter, Wind Direction	1	Jul 00	GFE	Pending
005	Indicator, Wind Direction	1	Jul 00	GFE	Pending
006	Synchro Panel	1	Jul 00	GFE	Pending
007	Test Panel Assembly	1	Jul 00	GFE	Pending
008	Wind Measuring Set	1	Jul 00	GFE	Pending
009	Indicator, Single Bite	1	Jul 00	GFE	Pending
010	NAVAIR Certification and Test Kit	1	Jul 00	GFE	Pending

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC San Diego

LOCATION, UIC: NTC San Diego, California, 61690

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
002	Detector Wind Direction	1	Jul 00	GFE	Pending
003	Mount, Detector, Wind Direction	1	Jul 00	GFE	Pending
004	Transmitter, Wind Direction	1	Jul 00	GFE	Pending
005	Indicator, Wind Direction	1	Jul 00	GFE	Pending
006	Synchro Panel	1	Jul 00	GFE	Pending
007	Test Panel Assembly	1	Jul 00	GFE	Pending
008	Wind Measuring Set	1	Jul 00	GFE	Pending
009	Indicator, Single Bite	1	Jul 00	GFE	Pending
010	NAVAIR Certification and Test Kit	1	Jul 00	GFE	Pending

IV.B. COURSEWARE REQUIREMENTS

IV.B.1. TRAINING SERVICES

COURSE / TYPE OF TRAINING	SCHOOL LOCATION, UIC	NO. OF PERSONNEL	MAN WEEKS REQUIRED	DATE BEGIN
Wind Measuring and Indicating System Instructor Initial Training	NAWCAD Lakehurst, New Jersey, 45945	2	2	Jul 00

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

TRAINING ACTIVITY: Service School Command

LOCATION, UIC: NTC Great Lakes, Illinois, 30626

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Curriculum Outline	6	May 95	Onboard
Instructor Guide	1	Mar 96	Onboard
Lesson Guide	4	May 95	Onboard
Student Guide	30	May 95	Onboard
Student Test	30	May 95	Onboard
Transparencies	4 Sets	May 95	Onboard

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC Norfolk

LOCATION, UIC: NOB Norfolk, Virginia, 61797

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guide	1	Jul 00	Onboard
Student Guide Volume I	9	Jul 00	Onboard
Student Guide Volume II	9	Jul 00	Onboard
Transparencies	10	Jul 00	Onboard
Video Cassette, Wind Measuring System	1	Jul 00	Onboard
Wall Chart	1	Jul 00	Onboard

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC San Diego

LOCATION, UIC: NTC San Diego, California, 61690

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guide	1	Jul 00	Onboard
Student Guide Volume I	9	Jul 00	Onboard
Student Guide Volume II	9	Jul 00	Onboard
Transparencies	10	Jul 00	Onboard
Video Cassette, Wind Measuring System	1	Jul 00	Onboard
Wall Chart	1	Jul 00	Onboard

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

TRAINING ACTIVITY: Service School Command

LOCATION, UIC : NTC Great Lakes, Illinois, 30626

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
NAVAIR 51-60-11 VSTOL OLS Shipboard Operations and Manual	Hard copy	30	May 95	Onboard
NAVAIR 51-60-14 VSTOL OLS Maintenance Manual	Hard copy	30	May 95	Onboard

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC Norfolk

LOCATION, UIC : NOB Norfolk, Virginia, 61797

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
AM-410AA-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type B WMIS	Hard copy	12	Jul 00	Onboard
AM-410AB-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type F WMIS	Hard copy	12	Jul 00	Onboard
AM-420AD-MAN-000 Cross Wind and Head Wind Computer Assembly and Speed Indicator	Hard copy	12	Jul 00	Onboard

CIN, COURSE TITLE: A-651-0047, Propulsion Alarm and Indicating System Maintenance

TRAINING ACTIVITY: FTC San Diego

LOCATION, UIC : NTC San Diego, California, 61690

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
AM-410AA-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type B WMIS	Hard copy	12	Jul 00	Onboard
AM-410AB-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type F WMIS	Hard copy	12	Jul 00	Onboard
AM-420AD-MAN-000 Cross Wind and Head Wind Computer Assembly and Speed Indicator	Hard copy	12	Jul 00	Onboard

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
PDA	Submit Proposed NTP to OPNAV.	May 93	Completed
OPNAV	Approve and promulgate NTP.	Aug 93	Completed
TSA	Deliver VSTOL OLS Curricula Materials and TTE.	Jul 95	Completed
TA	Begin VSTOL OLS Follow-On Training.	Sep 95	Completed
TSA	Assess WMIS training requirements.	Aug 96	Completed
TSA	Distribute Draft NTSP (Update) for Fleet review.	Sep 99	Completed
TSA	Determine WMIS Test Sets, Tools, and Test Equipment Requirements for training.	Nov 99	Pending
TSA	Deliver WMIS Curricula Materials.	Jul 00	Pending
TSA	Deliver WMIS TTE	Jul 00	Pending
TSA	Deliver WMIS Test Sets, Tools, and Test Equipment To training locations.	Jul 00	Pending
TA	Begin WMIS Follow-On Training.	Oct 00	Pending

PART VI - DECISION ITEMS/ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
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None			
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PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CAPT James Woolway Head, Plans, Policy, and Fleet Maintenance Support CNO, N881B woolway.james@hq.navy.mil	COMM: (703) 604-7747 DSN: 664-7747 FAX: (703) 604-6972
CDR Cyrus Murphy Resource Sponsor / Program Sponsor CNO, N885D1 murphy.cyrus@hq.navy.mil	COMM: (703) 697-9359 DSN: 227-9359 FAX: (703) 695-7103
CAPT Thomas Vandenberg Head, Aviation Technical Training Branch CNO, N889H vandenberg.thomas@hq.navy.mil	COMM: (703) 604-7730 DSN: 664-7730 FAX: (703) 604-6939
AZC Scott Dean NTSP Manager CNO, N889H7 dean.scott@hq.navy.mil	COMM: (703) 604-7714 DSN: 664-7714 FAX: (703) 604-6939
Mr. Robert Zweibel Training Technology Policy CNO, N75B Zweibel.robert@hq.navy.mil	COMM: (703) 614-1344 DSN: 224-1344 FAX: (703) 695-5698
LCDR Brian Mack Aviation Manpower CNO, N122C1 n122c1@bupers.navy.mil	COMM: (703) 695-3247 DSN: 225-3247 FAX: (703) 614-5308
COL James Hildreth Branch Head, USMC Aviation Manpower Management CMC, ASM-1 coljamesdhildreth@asm@hqmc.usmc.mil	COMM: (703) 614-1244 DSN: 224-1244 FAX: (703) 614-1309
Mr. Victor Brown Assistant Program Manager, Logistics NAVAIRSYSCOM, PMA251L brownvl@navair.navy.mil	COMM: (301) 757-6814 DSN: 757-6814 FAX: (301) 757-6800
ACCM Howard McGrath Assistant Program Manager, Training Systems NAVAIRSYSCOM, PMA2053B1 mcgrathhj@navair.navy.mil	COMM: (301) 757-8126 DSN: 757-8126 FAX: (301) 757-6945
CDR Earnest Hawkins Aviation NTSP Manager CINCLANTFLT, N-721 hawkinsel@clf.navy.mil	COMM: (757) 836-0101 DSN: 863-010 FAX: (757) 863-0141

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL**TELEPHONE NUMBERS****Mr. Robert Long**

Deputy Director For Training
CINCPACFLT, N70
u70@cpf.navy.mil

COMM: (808) 474-8513
DSN: 474-8513
FAX: (808) 471-8596

CAPT Robert Gibson

Deputy Assistant, Chief of Military Personnel for Distribution
NAVPERSCOM, PERS 4B
p4b@persnet.navy.mil

COMM: (901) 874-3529
DSN: 882-3529
FAX: (901) 874-2606

CDR Tim Ferree

Branch Head, Aviation Enlisted Rating
NAVPERSCOM, PERS 404
p404@persnet.navy.mil

COMM: (901) 874-3691
DSN: 882-3691
FAX: (901) 874-2642

MAJ Jon Doering

Head, ACE Branch, TFS Division
MCCDC, C5325A
doeringjg@mccdc.usmc.mil

COMM: (703) 784-6241
DSN: 278-6241
FAX: (703) 784-6072

Mr. Al Sargent

NTSP Coordinator
NAVMAC, 33
al.sargent@navmac.navy.mil

COMM: (901) 874-6247
DSN: 882-6247
FAX: (901) 874-6471

CDR Erich Blunt

Aviation Technical Training
CNET, ETE32
cdr_erich.blunt@smtp.cnet.navy.mil

COMM: (850) 452-4915
DSN: 922-4915
FAX: (904) 452-4901

Ms. Teri Kostbar

ALRE Logistics Training Manager
NAWCADLKE, 341400B596-2
kostbat4@lakehurst.navy.mil

COMM: (732) 323-1841
DSN: 624-1841
FAX: (732) 323-7402

Mr. John Spiegel

V/STOL OLS Team Leader
NAWCADLKE, 4.8.10.3
speigej4@lakehurst.navy.mil

COMM: (732) 323-2072
DSN: 624-2072
FAX: (732) 323-2771

Ms. Nancy McQuillan

MORIAH/VISUAL/WMIS Logistics Manager
NAWCADLKE, 3141
mcquilln4@lakehurst.navy.mil

COMM: (732) 323-7808
DSN: 624-7808
FAX: (732) 323-7402

Ms. Cindy Sturm

IFLOLS/LRLS/VLA In-Service Logistics Manager
NAWCADLKE, 3141
sturmc@lakehurst.navy.mil

COMM: (732) 323-1825
DSN: 624-1825
FAX: (732) 323-7402

Mr. William Leung

SGSI/WO/WO CUT/HPI/HRS Team Leader
NAWCADLKE, 4.8.10.3.B596-2
leungw4@lakehurst.navy.mil

COMM: (732) 323-7239
DSN: 624-1825
FAX: (732) 323-7233

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL**TELEPHONE NUMBERS****Mr. Jeff Jacques**

WMIS In-Service Engineer
NAWCADLKE, 4.8.10.3
jacques@lakehurst.navy.mil

COMM: (732) 323-4271
DSN: 624-7271
FAX: (732) 323-2771

Mr. Pete Mills

WMIS In-Service Team Leader
NAWCADLKE, 4.8.10.3
millsp4@lakehurst.navy.mil

COMM: (732) 323-2991
DSN: 624-2991
FAX: (732) 323-7233

IC1 Steven Lashomb

WMIS Curricula Manager
FTC Norfolk, N335

COMM: (757) 444-3850
DSN: 564-3850
FAX: (757) 444-9092

ICC John Nellis

ICC School Branch Head
SSC Great Lakes, C1
lcc.nellis@smtp.cnet.navy.mil

COMM: (847) 688-3224
DSN: 792-3224
FAX: (847) 688-3233

Ms. Barbra Klasaer

Technical Data Distribution Manager
NATEC, D125
distribution@natec.navy.mil

COMM: (619) 545-2570
DSN: 735-2570
FAX: (619) 545-2525

Ms. Misti Dayton

NTSP Coordinator
MAGA, Inc.
daytonm@hsanet.net

COMM: (301) 737-3500
DSN: NA
FAX: (301) 737-6442

Mr. Bill Loucks

NTSP Development (NTSP Author)
MAGA, Inc.
loucksb@hsanet.net

COMM: (301) 737-3500
DSN: NA
FAX: (301) 737-6442

Mr. Phil Szczyglowski

Competency Manager
NAVAIRSYSCOM, AIR 3.4.1.1
szczyglowspr@navair.navy.mil

COMM: (301) 757-9182
DSN: 757-9182
FAX: (301) 342-4723

AMCS Gregory Johnson

NTSP Coordinator
NAVAIRSYSCOM, AIR 3.4.1.1
johnsongp@navair.navy.mil

COMM: (301) 757-9188
DSN: 757-9188
FAX: (301) 342-4723